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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,298

06/16/2006

Bharat I. Chaudhary

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109 7590 12/17/2008

The Dow Chemical Company
Intellectual Property Section
P.O. Box 1967
Midland, MI 48641-1967

EXAMINER

BOYLE, ROBERT C

ART UNIT

PAPER NUMBER

4131

MAIL DATE

DELIVERY MODE

12/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,298	Applicant(s) CHAUDHARY ET AL.	
	Examiner ROBERT C. BOYLE	Art Unit 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 5 is objected to because of the following informalities: replace the word “having” with the word “has” for grammatical reasons. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Boutillier et al., U.S. Patent 6,255,402.
3. Claims 1-4 disclose a polymeric composition comprising (a) a free radical, (c) a graftable stable organic free radical, (b) an organic peroxide either having a half life longer than dicumyl peroxide or subject to formation of methyl radicals to a lesser degree than dicumyl peroxide, and where the stable organic free radical (i) substantially suppresses either degradation or carbon-carbon crosslinking of the polymer in the presence of free radical inducing species and (ii) is graftable onto the polymer after the polymer forms a free radical.
4. Boutillier teaches attaching bifunctional stable free radicals to elastomer chains (abstract; column 3, lines 48-65; column 5, lines 35-67), using peroxides (column 3, lines 18-33), and generating free radicals on polymers (column 3, lines 1-4).
5. Boutillier does not describe the properties of the peroxides used. However, since the instant application teaches using dialkyl peroxides (paragraphs 0053 and 0060 of the instant

Art Unit: 4131

application), it is assumed that dialkyl peroxides satisfy the two peroxide properties claimed: having a half life longer than dicumyl peroxide or subject to formation of methyl radicals to a lesser degree than dicumyl peroxide. Boutillier teaches two alkyl peroxides, di(tBu-peroxy)cyclohexane and di(tBu-peroxy)trimethylcyclohexane (column 7, lines 51-52). Because the instant application gives no guidance to which peroxides have the claimed properties and the peroxides taught by Boutillier are alkyl peroxides very similar to the peroxides disclosed by the instant application, bis(tBu-peroxy)dimethylhexane, one would expect them to have the same properties of having a half life longer than dicumyl peroxide and subject to formation of methyl radicals to a lesser degree than dicumyl peroxide.

6. Boutillier does not describe the stable free radicals suppressing degradation or crosslinking. However, since Boutillier uses butadiene/styrene polymers (column 7, lines 1-4), peroxides (column 3, lines 18-33), and stable free radicals (column 5, lines 31-67), one would realize that the use of stable free radicals with would inhibit both polymer degradation and crosslinking caused by the formation of free radicals.

7. Claims 5 and 6 discloses the graftable stable organic free radical has a functional group and functional group is selected from a list which includes a hydroxyl group. Boutillier teaches stable free radicals with hydroxyl groups (column 6, lines 20-22).

Art Unit: 4131

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT C. BOYLE whose telephone number is (571)270-7347. The examiner can normally be reached on Monday-Friday 9:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner
Art Unit 4131

/R. C. B./
Examiner, Art Unit 4131